United States Department of Agriculture

Animal and Plant Health Inspection Service

National Wildlife Research Center

Wildlife Services Seeking Solutions Through Research

Reducing Blackbird Damage to Ripening Sunflower Crops and to Feedlots

Contact Information:

Research Wildlife Biologist
USDA/APHIS/WS/NWRC
North Dakota Field Station, 2110 Miriam Circle
Bismarck, ND 58105
Phone: 701-250-4469 FAX: 701-250-4408
Website: www.aphis.usda.gov/ws/nwrc

National Wildlife Research Center Scientists Address Sunflower Producers' and Feedlot Managers' Concerns

Wildlife Services' (WS) National Wildlife Research Center (NWRC) is the only Federal research facility devoted exclusively to resolving conflicts created by the interaction of wildlife and people through the development of effective, selective, and acceptable methods, tools, and techniques.

The NWRC Bismarck, North Dakota Field Station is ideally located to study methods of managing blackbird damage to sunflower crops in the northern Great Plains.

Blackbirds and starlings are responsible for damaging grain crops and eating livestock feed. NWRC scientists are studying ways to refine current damage abatement methods, develop new methods of managing damage, and expand capabilities to effectively manage target blackbird populations on both local and regional scales with predictable results. Research on herbicide effectiveness to reduce breeding and roosting habitat of local blackbird populations may provide suitable information for predicting the effects of altering roosting habitat on a regional scale. Data from small-scale field studies designed to test bird repellents may provide sufficient data on the population's response to model the efficacy of these techniques on a wide-spread basis. In addition, the development and use of statistically validated computer models, which integrate geographic information and species-specific population parameters, to monitor and predict population changes on local, regional, and national scales may lead to more practical and cost-beneficial solutions to bird damage problems.

Groups Affected By These Problems:

Sunflower producers
South Dakota Oilseed Council
North Dakota Department of Agriculture
South Dakota Department of Agriculture
Consumers of sunflowers, sunflower seeds, sunflower oil and other products
Processors, manufacturers/suppliers, and sellers of sunflower products

Applying Science and Expertise to Wildlife Challenges

Cattail Management—Blackbirds roost in wetland cattail stands adjacent to many sunflower fields during the late summer, just prior to harvest. NWRC scientists are studying ways to improve the cost-effectiveness of glyphosate herbicide applications for managing the denseness of these cattail stands in an effort to manage blackbird population densities, and reduce bird damage to crops.

Population Modeling—A study is underway to develop population models describing the population distribution, abundance, and dynamics of blackbirds in central North America. This information will provide an objective method of evaluating the effects of lethal and nonlethal management techniques on local and regional populations of blackbirds. In addition, a comprehensive database on the basic ecology and regional movements of blackbirds in relation to sunflower and livestock feed damage is being developed to apply new habitat management approaches to this problem.

Blackbird Reproduction—NWRC scientists are quantitatively determining the effects on reproduction of blackbirds by systematically removing territorial male blackbirds, thus disrupting blackbird pair-bonding. This technique would provide a new and environmentally safe and cost-beneficial management tool that could be easily implemented by wildlife managers and sunflower growers for reducing local sunflower damage.

Repellents and Physical Barriers—NWRC researchers are working to identify, develop, and improve the use of chemical repellents and physical barriers for reducing blackbird damage to ripening sunflower crops. These NWRC scientists are collecting efficacy and cost-benefit data to support Federal registration of environmentally safe and effective feeding deterrents, and developing operational guidelines for their use in an integrated application strategy for bird repellents on sunflowers.

Major Research Accomplishments:

WS determined the costs and benefits of various application levels of glyphosate to manage cattail density and related blackbird roosting populations in marsh habitats

WS refined strategies for operational use of DRC-1339 to reduce blackbird damage to rice and sunflower crops

Selected Publications:

Homan, H.J., G.M. Linz, R.L. Wimberly and B.D. Peer. 2000. Cattail Management: Developing, Implementing and Refining a Nonlethal Method to Reduce Sunflower Damage by Blackbirds. Proceedings of the 22nd Sunflower Research Workshop, January 18-19, 2000, Fargo, ND. pp. 183-185.

Peer, B.D., G.M. Linz, H.J. Homan and W.J. Bleier. 2000. Population Dynamics of Blackbirds Responsible for Depredation of the Northern Great Plains Sunflower Crop. Proceedings of the 22nd Sunflower Research Workshop, January 18-19, 2000, Fargo, ND. pp. 186-187.